MINUTES OF DOT-AGC BRIDGE DESIGN SUBCOMMITTEE MEETING

The DOT-AGC Joint Bridge Design Subcommittee met on May 23rd 2001. Those in attendance were:

Greg Perfetti	Assistant State Bridge Design Engineer
Berry Jenkins	Manager of Highway Heavy Division, Carolinas Branch AGC (Co-Chairman)
Ron Shaw	Lee Construction Company of Carolinas
Greg Nelson	S. T. Wooten
Kevin Burns	R. E. Burns & Sons Co.
Victor Barbour	State Design Services Engineer
Ellis Powell	State Bridge Construction Engineer
Tommy Grubbs	Bridge Construction Engineer
Paul Lambert	Structure Design Project Engineer
Nilesh Surti	Soils and Foundations Engineer
Rodger Rochelle	Structure Design Project Design Engineer (Secretary)

The following items of business were discussed:

1. The minutes of the March 27, 2001 meeting were accepted.

2. *Standard Shoring Design Update*

   Mr. Rochelle distributed a preliminary drawing illustrating standard shoring designs for driven cantilever shoring. The shoring is categorized as either "Temporary Shoring" or "Temporary Shoring – Barrier Supported". For a given height to a maximum of 11 ft., the embedment depth and minimum section modulus for sheet piles are presented. Three HP pile sections are also allowed with the standard drawing.

   Mr. Surti explained that various notes have yet to be developed. Among other things, these notes will explain that these standard designs may be used without submittals but that the Contractor may submit alternate shoring types. After considerable discussion, the committee decided that drilled pile designs should also be included on the standard drawing. In this way, the Contractor may switch to a drilled pile design when driving to the prescribed depth is not possible, all without a submittal.

   Mr. Rochelle emphasized that tieback designs have not been included in these standard designs yet. The effort is concentrated on getting the cantilever shoring standardized prior to development of the tieback standards. Mr. Surti discussed the difficulties associated with standardizing tiebacks, including varying testing requirements among the types of tiebacks. It was proposed that a helical type anchor be included as the standard tieback design.

   Mr. Perfetti discussed the need to revise the current special provision for shoring to accommodate these standard designs. Additionally, Structure Design will coordinate

with Soils and Foundations to finalize these drawings and distribute them to the committee members prior to the next meeting.

3. *Sound Barrier Wall Update*

   Mr. Rochelle informed the committee that the new standard drawings and special provision for sound barrier walls go into effect with the August 2001 letting. These drawings afford the Contractor the option to choose between three pile spacings. Highlights of the special provision include the requirement that the final ground survey be performed prior to submittal of the wall working drawings. The wall will be paid for on a square foot basis and will be measured as the total area of precast panels used in the wall.

4. *Lump Sum Payment for Bridges*

   Mr. Barbour introduced the idea of paying for small bridge replacements on a lump sum basis and asked for comments. The response was favorable provided that the size of the project is limited to roughly $1 million. The Contractors present agreed that it would be beneficial to continue showing the quantities on the plans. Mr. Shaw recommended that a 5% contingency fund be available for each of these projects to facilitate the payment for extra work, change in scope, or plan errors. Mr. Nelson stated that several of the more troublesome pay items such as drilled piers and piles could be maintained as separate line items. Mr. Barbour stated that many of these details need to be discussed further prior to implementation, but that there is no intent in changing the way we prepare or present our bridge plans.

5. *Crashwall Details*

   Mr. Perfetti inquired as to the constructability of the permitted construction joint currently located 3" above the top of the crashwall. The Contractors present agreed that it would be a better detail if the permitted construction joint were located at the top of the wall. Structure Design will modify this detail as well as the comparable detail used with median pier protection. Due to a new CSX requirement that the crashwall be as wide as the column, it was proposed that a rectangular wall be designed in lieu of columns and an offset wall.

6. *Lifting Holes in Piles*

   Mr. Powell reiterated that some Contractors wish to use holes in the flanges for lifting purposes. Mr. Shaw stated that one hole in the flange allows for shackle attachment, but that two holes provide more stability while lifting. Currently, holes are not allowed to remain in piles below a splice point.

   Mr. Rochelle recommended that this policy remain intact for interior pile bents, pile footings, or very deep abutments. However, the Bridge Construction Engineer may allow holes in the flanges of piles 12" or larger used in typical end bents supporting prestressed girders or shallow steel girders. The holes should be limited to 1" – 2" in

diameter. If the Contractor wishes to use flange holes for lifting and setting piles, the topic should be addressed at the Preconstruction Meeting.

7. *Division 4 Standard Specifications*

Mr. Rochelle mentioned three comments that had been submitted by Mr. Burns regarding the rewrite of Division 4 of the Standard Specifications.

(1) Mr. Burns felt that the requirement for a blasting plan in all cases was too restrictive. Primarily, if the Contractor hits a boulder that must be blasted then a blasting plan is still required. Mr. Powell suggested that a generic blasting plan be submitted early in the project to cover such minor blasting scenarios. This could be handled at the Preconstruction Conference.
(2) Mr. Burns interpreted Article 420-12 to mean that hot poured asphalt is required for sealing joints with expansion joint material. Structure Design will investigate this interpretation further; however, any note on the plans calling for silicone sealant would supersede this requirement.
(3) Mr. Burns stated that when the project includes lump sum grading, the Contractor is not compensated for replacing the unsuitable material that is often encountered during culvert excavation. Currently the Soils and Foundations Section identifies those locations where unsuitable material is expected. However, this material is encountered rather often and can mean as much as a $10,000 burden according to Mr. Burns. Mr. Nelson explained that it is not a problem when select granular material is part of the contract, but that otherwise this excavation and backfill should be paid as extra work. As a plan note is difficult to cover this situation, Mr. Burns agreed to consider and propose a contractual solution to this problem.

8. *OSHA Shear Stud Requirements*

Mr. Rochelle distributed excerpts from the Federal Register that include new OSHA requirements governing the attachment of shear studs. It is proposed that all shear studs be welded to the girders in the field. The tentative effective date for this requirement is July 2001; however, the final rule is under review and will reportedly be delayed until at least September 2001. Mr. Rochelle will keep the committee informed on this issue.

9. *Other*

i. *Structure Design Website*

Mr. Rochelle stated that a link has been added within the AGC-DOT Section of the website. This link allows for the direct submittal of questions regarding the AGC-DOT minutes, meetings, and resolutions, as well as any Structure Design policy issue.

ii. *Next Meeting*

The next meeting is scheduled for July 25th at 10:00 am in the Structure Design Unit Conference Room C.